

REMARKS

Claims 2-10 and 12-21 have been pending in the application, which according to the forgoing are amended to improve form.

The independent claims are 3, 13 and 21.

The pending claims 2-10 and 12-21 remain pending for reconsideration, which is respectfully requested. No new matter has been added. The rejections are traversed.

INFORMATION DISCLOSURE STATEMENT

The Office Action page 17 provides that "Japanese Patent Application number 2000-034642 was not considered." It appears the Examiner did not consider item AD of Attachment 1(g) in the Information Disclosure Statement filed October 27, 2006, however, the Examiner has already considered item AD of Attachment 1(g) (Japanese Office Action mailed September 1, 2006 in Japanese patent application no. 2000-034642 corresponding to the present pending US patent application).

However, it is respectfully requested, the Examiner consider item AE of Attachment 1(g) in the Information Disclosure Statement filed August 28, 2006 (Japanese Office Action mailed June 6, 2006 in Japanese patent application no. 2000-034642 corresponding to the present pending US patent application). The USPTO PAIR confirms submission of the same. Consideration of item AE of Attachment 1(g) of IDS of August 28, 2006 is respectfully requested.

35 USC 101 REJECTION

Claims 2-10 and 12-21 are rejected under 35 USC 101, because the functional language is not directed towards a tangible result. However, according to MPEP 2106 II.A and 2106 IV.C.2(2)(b), guideline:

The claimed invention as a whole must >be useful and< accomplish a practical application. That is, it must produce a "useful, concrete and ***tangible*** result." *State Street*, 149 F.3d at *1373-74<, 47 USPQ2d at 1601-02.

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The tangible requirement does not necessarily mean that a

claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process ***claim must set forth a practical application of that §101 judicial exception to produce a real-world result.*** Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

The claimed embodiments of independent claims 3, 13 and 21, using claim 1 as an example, expressly recite a tangible result, for example, of “***synchronizing said three-dimensional-mechanism model simulating section and said embedded software developing section in operation with each other***” by providing “***a second interface section transferring actuator instruction data and sensor data between said three-dimensional-mechanism model simulating section and said embedded software developing section.***” The claims clearly set forth a practical application of synchronizing a model simulator and an embedded software developer in a support system. Further, independent claims 3, 13 and 21 are apparatus, computer readable medium and apparatus, respectively, type claims.

Accordingly, withdrawal of the 35 USC 101 non-statutory subject matter rejection is respectfully requested.

35 USC 103 REJECTION

Claims 2-10 and 12-21 are rejected under 35 USC 103(a) as being unpatentable over Rosenberg (US Patent No. 5,907,487) in view of Ridgell (US Patent No. 6,442,104). The Office Action relies upon Rosenberg column 46, lines 47-50 and column 9, line 38 for meeting the claimed “a mechanism designing section for three-dimensionally designing a mechanism composed of a plurality of parts including an actuator and a sensor,” however, Rosenberg only discusses an interface device (game joystick) or (“force feedback peripheral) 14 as a mechanism, but Rosenberg is silent on any device for designing the mechanism. In other words, Rosenberg column 46, lines 47-50 and FIG. 8 discuss an interface 14 as a game joystick (column 9, line 38), which includes a user object 34 as a joystick handle coupled to the gimbal mechanism 240 (FIGS. 2, 8, 9a). Further, Rosenberg refers to a user grasping the user object 34 to manipulate the same in a physical three dimensional space (i.e., physically moving the joystick handle 34), but Rosenberg is silent on any “***support system ... three-dimensionally***

designing a mechanism composed of a plurality of parts including an actuator and a sensor,” because Rosenberg is not related to a support system used to design a mechanism, but Rosenberg only discusses an interface device (game joystick) 14 as a peripheral for a host 12 (column 9, line 38+).

Further, the Office Action relies upon Rosenberg column 46, lines 47-50 and column 1, line 26 for meeting the claimed “a three-dimensional-mechanism model simulating section, in **which the mechanism is structured as a three-dimensional-mechanism model, for simulating** an operation of the mechanism,” however, Rosenberg discusses a game or a simulation that responds to the user’s manipulation of a moved object 34, such as a joystick handle 34, but is silent on simulation of the interface device 14 including the joystick handle 34.

Further, the Office Action relies upon Rosenberg column 24, line 42+ for meeting the claimed “an embedded software developing section for **developing a control program, which is to be embedded in the mechanism** to control the operation of the mechanism, as embedded software,” but Rosenberg only discusses providing an enable line 106 allowing the software process running on the host computer to be better coordinated with the force feedback of the interface device (game joystick) 14. Rosenberg is silent on any “**developing a control program ... embedded in the mechanism to control the operation of the mechanism,**” because Rosenberg is not directed to developing embedded software for the game joystick 14.

A prima facie case of obviousness based upon Rosenberg cannot be established, because Rosenberg only discusses a game joystick 14 (FIG. 2) and is not related to developing any embedded software for the game joystick 14’s controller 26, and fails to disclose, or suggest to one skilled in the art, the claimed “**support system ... three-dimensionally designing a mechanism,**” “**the mechanism is structured as a three-dimensional-mechanism model, for simulating,**” and “**developing a control program, which is to be embedded in the mechanism.**”

Further, the Office Action relies upon Ridgell for meeting the claimed first and second interfaces. Ridgell is directed to generating underwater background acoustic signals in a multiplexed format for use in training simulators which simulate antisubmarine-warfare episodes in real time. The Office Action page 4 provide “Rosenberg and Ridgell are analogous since they teach computer simulation,” however, Rosenberg is not directed to any type of simulation,

because Rosenberg column 1, lines 40-44 only discusses "updates the game or simulation in response to the user's manipulation of a moved object such as a joystick handle or mouse ...," which differs from the claimed embodiments for simulating a mechanism for purpose of developing embedded software to control the mechanism. Rosenberg does not discuss any embedded software development. Therefore, there is no suggestion or motivation in Rosenberg or in Ridgell to be combined with each other.

Further, the Office Action page 4 alleges "it would have been obvious to one having ordinary skill in the art at the time of the invention was made to utilize the plurality of computer simulation devices of Ridgell in the sensor signal indicators of Rosenberg, because Ridgell teaches a method to reduce the amount of hardware necessary to generate the larger number of digital signals required for a realistic simulation (Ridgell: column 3, lines 33-35). Therefore, the Office Action appears to allege simulating Rosenberg's joystick 14 (FIG. 2) by being combined with Ridgell. However, Ridgell column 3, lines 33-35, which is relied upon by the Examiner, and other parts of Ridgell only discuss multiplexing digital signals for a realistic simulation, but fail to disclose or provide any motivation to be modified to provide any of the present claimed interfaces for **"developing a control program, which is to be embedded in the mechanism"** by **"a second interface ... transferring actuator instruction data and sensor data between said three-dimensional-mechanism model simulating section and said embedded software developing section while synchronizing ... model simulating ... and ... embedded software developing ... with each other."** For example, the present application FIG. 1 interfaces 51 and 52 support the claimed **"second interface ..."**

A prima facie case of obviousness based upon Rosenberg and Ridgell cannot be established, because Rosenberg only discusses building a game joystick 14 and Ridgell only discusses generating sound signals for a simulator, but both references fail to disclose, or suggest to one skilled in the art, the claimed **"simulating an operation of the mechanism"** and **"an embedded software developing section for developing a control program, which is to be embedded in the mechanism to control the operation of the mechanism"** and **"a second interface ... transferring actuator instruction data and sensor data between said three-dimensional-mechanism model simulating section and said embedded software developing section while synchronizing ... model simulating ... and ... embedded software developing ... with each other."**

In view of the remarks, withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.


CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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